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SECTOR COMPETITIVENESS FRAMEWORKS

BUS MANUFACTURING HIGHLIGHTS



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Sector Competitiveness Frameworks are a new series of documents produced by Industry Canada in partnership with Canada's key industry stakeholders. Each framework will examine a major Canadian industry sector, and will be prepared in two volumes. *Part 1 — Overview and Prospects* focusses on the opportunities, both domestic and international, as well as on the challenges facing industry sectors in Canada. *Part 2 — Framework for Action* will be based on consultations with major industry stakeholders, following study and review of the *Overview and Prospects*.

The objective of the **Sector Competitiveness Frameworks** series is to seek ways in which government and private industry together can strengthen Canada's competitiveness and, in doing so, generate jobs and growth.

In all, some 29 industrial sectors will be analyzed. *Part 1 — Overview and Prospects* will be available for distribution in printed as well as electronic forms during coming months for the following industries:

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Electronic copies of *Bus Manufacturing: Part 1 — Overview and Prospects* are available on the Internet at the following address: http://strategis.ic.gc.ca/bus_manufacturing.scf

This Highlights document can be made available in alternative formats upon request.

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Cat. No. C21-22/8-1-1996-1E

ISBN 0-662-24751-5

Aussi disponible en français sous le titre : Points saillants sur les autobus.



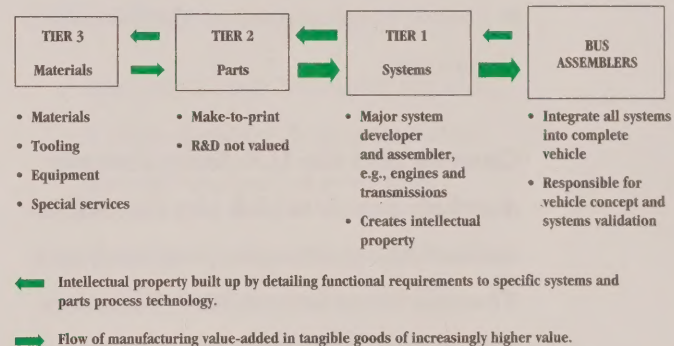
HIGHLIGHTS

The Canadian bus manufacturing industry is profitable and competes successfully in the North American bus market.

- Total exports: \$349 million in 1994; 68% of total bus production.
- Jobs: 3600 in 1994.
- The industry comprises nine major companies. They operate in three subsectors:
 - intercity buses (two companies)
 - urban transit buses (three companies)
 - school buses (four companies)
- The bus market is mature and stable, and all three subsectors are profitable.
- Two companies are in Manitoba, three are in Ontario and four are in Quebec. Most companies have plants in both Canada and the United States.
- Unlike high-volume car assembly lines, buses are assembled by means of a sequenced workstation assembly process. This process is low-volume and not highly automated.

- Bus assemblers depend on, and are influenced by, major independent systems suppliers whose primary customers are the North American heavy trucks industry, for whom bus manufacturers represent only a small proportion of total sales.
- The high-volume scale and manufacturing specialization of these suppliers precludes rearward integration by bus manufacturers.
- The purchasers of buses — typically sophisticated fleet operators — also influence the industry; they usually specify the buses' major systems and components to ensure consistent operations and maintenance.

Functional Structure of the Large Bus Sector



Canada's bus production exceeds domestic needs. Exports are sold only in the U.S.

- As a result, the industry is strongly affected by U.S. government policies, regulations and subsidies.
- Despite duty-free trade provisions of the 1965 Canada–U.S. Automotive Products Agreement (Auto Pact), the North American industry is only partially rationalized.
- Financial incentives influence bus purchasing decisions. For example, “Buy America” regulations distort the market because they require the final assembly of certain buses to take place in the U.S.
- However, Canadian provinces also favour local assemblers.

Canada and the U.S. form a single market, one in which the Canadian-owned bus producers predominate. There is little interaction between this North American market and the European market.

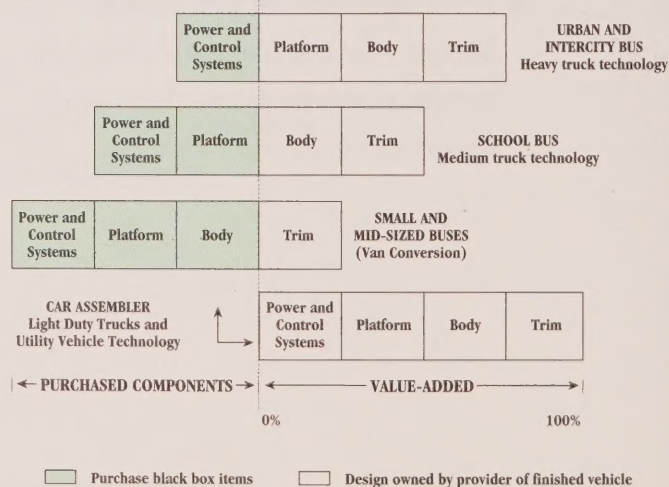
- Canadian producers of intercity and urban transit buses have captured approximately 70 percent each of the North American market; Canadian school bus manufacturers have about 11 percent of this market.

- The North American market in general has few offshore imports and exports. Reasons include:
 - differences in performance and design between European and North American buses
 - barriers in differing technical requirements
 - local content manufacturing rules for urban transit buses.
- Despite these, European bus imports have gained some market share (less than 1 percent) in the North American intercity tour bus segment.

Canadian companies are leaders in technology development and adaption in North American urban and intercity bus manufacturing.

- Canadian firms lead in systems integration, innovative body design and structure, and quick response to market demand.

Categories of Proprietary Technology by Type of Bus Producer



- Several companies have completely redesigned their buses to meet both market needs and regulatory requirements. Their new products include: articulated buses, low-floor buses, buses designed for the physically disabled and luxurious tour buses.

Market trends are evolving in each industry subsector.

Intercity Buses

- The deregulation of the industry and the presence of new carriers has led to notable changes.
- Greyhound, once the major purchaser of intercity buses, strongly influenced bus design.
- New intercity bus designs stress comfort, passenger convenience and a low operation cost. These factors are increasingly relevant with the aging North American population and the demand for leisure travel rather than scheduled service.
- New bus designs need advanced materials to improve safety and reduce weight in the interests of an improved economy of operation.

Urban Buses

- The most significant change is the transition from high-floor to low-floor buses where the floor is at curb level. Within two years, an estimated 80 percent of new buses will be low-floor.

- Thirty-foot (9.1 metres) buses will replace the current 40-foot (12.2 metres) buses and accommodate the changing market.
- New designs will feature advanced materials that will help increase product durability, reduce bus weight to meet emission standards and reduce total life cycle expenses of the vehicle.
- Lower government subsidies and increased privatization will prompt urban transit authorities to look for innovative financing.

School Buses

- Privatization of manufacturers and a decline in public sector funding creates a demand for increased overall efficiency of these vehicles. Issues include:
 - *Life cycle costing*: The market demands a longer operating life than the current nominal expectancy of seven years.
 - *Funding*: Like the urban bus sector, school bus privatization will continue to grow and private operators will look for the best available financing packages.
 - *Other methods of transportation*: To maintain their appeal, future school bus designs will have to include advanced materials for safer, lighter and more durable vehicles. There is a demand for alternative fuel technology.

With government subsidies decreasing and privatization increasing, industry sectors face new financing needs.

Intercity Buses

- Private lending practices govern this sector, rather than government assistance. However, to sell these buses outside of North America, innovative financing may be necessary.

Urban and School Buses

- In the past, government funding has met these sectors' funding needs.
- School boards seek more cost-effective ways of doing business, and urban transit authorities or their equivalent private sector companies must look to innovative financing for new buses.
- Both urban and school bus operators will focus on low life cycle costs and funding availability.
- Private companies will search out the best financing packages. This will influence buying and selling within the industry.

To increase productivity and utilize advanced materials, workers in all areas of the industry will face higher demands, including new skill development.

- Among these new skills: electronic control, advanced materials and quality control concerns.
- Successful training and skills upgrading require organization and planning.
- Improvements in productivity will reduce assembly plant jobs; as a result, new jobs are expected in the independent supply sector.

The “greening” of the transportation system — particularly the public transportation system — goes beyond simply imposing regulations.

- Introducing clean, advanced manufacturing processes remains an ongoing challenge.
- With the drive for zero emissions by these systems comes a constant demand for “greener” products and effective and affordable new systems technologies. New product technologies are currently being developed.

If current trends continue, the overall market for new buses will decline.

- These new buses will be long-lasting, with extended warranties.
- However, a potential for industry sales exists in the emerging markets of Central and South America.
- Interprovincial barriers to bus purchases will continue to distort the market until 1998.

Changes in the regulatory regime have a major influence on industry competitiveness. These include:

Engine Certification

- Currently, engine manufacturers carry out certification against U.S. Environmental Protection Agency standards.
- The anticipated transfer of this responsibility to vehicle assemblers would make bus manufacturers responsible for the testing and certification of finished vehicles.

Life Cycle Cost Management

- With increased privatization, overall operating costs are a high priority. Manufacturers wanting to maintain their competitive edge will benefit from sophisticated life cycle cost management practices.
- This is especially true with the design of longer-lasting buses.

Discussions surrounding Industry Canada's Framework for Action document will consider the following:

- Bus manufacturing in Canada is profitable and the market is stable.
- Canadian producers lead in specialized areas:
 - low-floor buses
 - the use of alternative fuels
 - innovative fuel cell technology
 - buses for the physically disabled.
- Urban bus manufacturers are focussing research and development efforts on improving quality and lowering production costs.

- There is a latent market demand for a redesigned school bus with new materials and alternative fuel technology.
- Substantial manufacturing overcapacity remains in the industry; further rationalization is likely if the sector does not grow soon.
- “Buy America” regulations distort the market.
- Removing interprovincial trade barriers would benefit the industry.
- A decrease in assembly plant jobs is expected.
- The intercity sector is experiencing increasing price competition; it is necessary to reduce production costs while increasing bus quality and consumer satisfaction.

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